

## Nuclear Regulatory Commission

## § 30.70

in the application therefor or approved by the Commission.

[30 FR 8185, June 26, 1965, as amended at 40 FR 8785, Mar. 3, 1975]

### § 30.63 Violations.

(a) The Commission may obtain an injunction or other court order to prevent a violation of the provisions of—

(1) The Atomic Energy Act of 1954, as amended;

(2) Title II of the Energy Reorganization Act of 1974, as amended; or

(3) A regulation or order issued pursuant to those Acts.

(b) The Commission may obtain a court order for the payment of a civil penalty imposed under section 234 of the Atomic Energy Act:

(1) For violations of—

(i) Sections 53, 57, 62, 63, 81, 82, 101, 103, 104, 107, or 109 of the Atomic Energy Act of 1954, as amended;

(ii) Section 206 of the Energy Reorganization Act;

(iii) Any rule, regulation, or order issued pursuant to the sections specified in paragraph (b)(1)(i) of this section;

(iv) Any term, condition, or limitation of any license issued under the

sections specified in paragraph (b)(1)(i) of this section.

(2) For any violation for which a license may be revoked under section 186 of the Atomic Energy Act of 1954, as amended.

[57 FR 55072, Nov. 24, 1992]

### § 30.64 Criminal penalties.

(a) Section 223 of the Atomic Energy Act of 1954, as amended, provides for criminal sanctions for willful violation of, attempted violation of, or conspiracy to violate, any regulation issued under sections 161b, 161i, or 161o of the Act. For purposes of section 223, all the regulations in part 30 are issued under one or more of sections 161b, 161i, or 161o, except for the sections listed in paragraph (b) of this section.

(b) The regulations in part 30 that are not issued under sections 161b, 161i, or 161o for the purposes of section 223 are as follows: §§ 30.1, 30.2, 30.4, 30.5, 30.6, 30.8, 30.11, 30.12, 30.13, 30.15, 30.16, 30.31, 30.32, 30.33, 30.37, 30.38, 30.39, 30.61, 30.62, 30.63, 30.64, 30.70, 30.71, and 30.72.

[57 FR 55072, Nov. 24, 1992]

## SCHEDULES

### § 30.70 Schedule A—exempt concentrations.

[See footnotes at end of this table]

Element (atomic number)	Isotope	Col. I	Col. II
		Gas concentration $\mu$ Ci/ml <sup>1</sup>	Liquid and solid concentration $\mu$ Ci/ml <sup>2</sup>
Antimony (51)	Sb 122 .....	.....	$3 \times 10^{-4}$
	Sb 124 .....	.....	$2 \times 10^{-4}$
	Sb 125 .....	.....	$1 \times 10^{-3}$
Argon (18)	A 37 .....	$1 \times 10^{-3}$	$5 \times 10^{-3}$
	A 41 .....	$4 \times 10^{-7}$	$5 \times 10^{-4}$
Arsenic (33)	As 73 .....	.....	$2 \times 10^{-4}$
	As 74 .....	.....	$8 \times 10^{-4}$
	As 76 .....	.....	$2 \times 10^{-3}$
	As 77 .....	.....	$3 \times 10^{-4}$
Barium (56)	Ba 131 .....	.....	$2 \times 10^{-2}$
	Ba 140 .....	.....	$4 \times 10^{-4}$
Beryllium (4)	Be 7 .....	.....	$3 \times 10^{-3}$
Bismuth (83)	Bi 206 .....	.....	$2 \times 10^{-3}$
Bromine (35)	Br 82 .....	$4 \times 10^{-7}$	$9 \times 10^{-5}$
Cadmium (48)	Cd 109 .....	.....	$8 \times 10^{-3}$
	Cd 115m .....	.....	$9 \times 10^{-4}$
	Cd 115 .....	.....	$3 \times 10^{-4}$
Calcium (20)	Ca 45 .....	.....	$5 \times 10^{-4}$
	Ca 47 .....	.....	$9 \times 10^{-5}$
Carbon (6)	C 14 .....	$1 \times 10^{-6}$	$8 \times 10^{-3}$
Cerium (58)	Ce 141 .....	.....	$9 \times 10^{-4}$
	Ce 143 .....	.....	$4 \times 10^{-4}$

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[See footnotes at end of this table]

Element (atomic number)	Isotope	Col. I	Col. II
		Gas concentration $\mu$ Ci/ml <sup>1</sup>	Liquid and solid concentration $\mu$ Ci/ml <sup>2</sup>
Cesium (55)	Ce 144 .....	.....	$1 \times 10^{-4}$
	Cs 131 .....	.....	$2 \times 10^{-2}$
	Cs 134m .....	.....	$6 \times 10^{-2}$
	Cs 134 .....	.....	$9 \times 10^{-5}$
Chlorine (17) .....	Cl 38 .....	$9 \times 10^{-7}$ .....	$4 \times 10^{-3}$
Chromium (24) .....	Cr 51 .....	.....	$2 \times 10^{-2}$
Cobalt (27) .....	Co 57 .....	.....	$5 \times 10^{-3}$
	Co 58 .....	.....	$1 \times 10^{-3}$
	Co 60 .....	.....	$5 \times 10^{-4}$
Copper (29) .....	Cu 64 .....	.....	$3 \times 10^{-3}$
Dysprosium (66) .....	Dy 165 .....	.....	$4 \times 10^{-3}$
Erbium (68) .....	Er 169 .....	.....	$4 \times 10^{-4}$
Europium (63) .....	Er 171 .....	.....	$9 \times 10^{-4}$
	Eu 152 .....	.....	$1 \times 10^{-3}$
	(T/2=9.2 Hrs). Eu 155 .....	.....	$6 \times 10^{-4}$
Fluorine (9) .....	F 18 .....	$2 \times 10^{-6}$ .....	$2 \times 10^{-3}$
Gadolinium (64) .....	Gd 153 .....	.....	$8 \times 10^{-3}$
Gallium (31) .....	Ga 72 .....	.....	$2 \times 10^{-3}$
Germanium (32) .....	Ge 71 .....	.....	$8 \times 10^{-4}$
Gold (79) .....	Au 196 .....	.....	$4 \times 10^{-4}$
Hafnium (72) .....	Au 198 .....	.....	$2 \times 10^{-2}$
	Au 199 .....	.....	$5 \times 10^{-4}$
	Hf 181 .....	.....	$2 \times 10^{-3}$
Hydrogen (1) .....	H 3 .....	$5 \times 10^{-6}$ .....	$7 \times 10^{-4}$
Indium (49) .....	In 113m .....	.....	$3 \times 10^{-2}$
Iodine (53) .....	In 114m .....	.....	$1 \times 10^{-2}$
	I 126 .....	.....	$2 \times 10^{-4}$
	I 131 .....	.....	$3 \times 10^{-5}$
	I 132 .....	.....	$8 \times 10^{-8}$
	I 133 .....	.....	$1 \times 10^{-8}$
Iridium (77) .....	I 134 .....	.....	$2 \times 10^{-7}$
	Ir 190 .....	.....	$3 \times 10^{-9}$
	Ir 192 .....	.....	$2 \times 10^{-5}$
Iron (26) .....	Ir 194 .....	.....	$8 \times 10^{-4}$
	Fe 55 .....	.....	$3 \times 10^{-4}$
	Fe 59 .....	.....	$8 \times 10^{-3}$
Krypton (36) .....	Kr 85m .....	$1 \times 10^{-6}$ .....	$6 \times 10^{-4}$
Lanthanum (57) .....	Kr 85 .....	$3 \times 10^{-6}$ .....	$2 \times 10^{-4}$
	La 140 .....	.....	$4 \times 10^{-3}$
	Pb 203 .....	.....	$1 \times 10^{-3}$
Lutetium (71) .....	Lu 177 .....	.....	$3 \times 10^{-4}$
Manganese (25) .....	Mn 52 .....	.....	$1 \times 10^{-3}$
Mercury (80) .....	Mn 54 .....	.....	$1 \times 10^{-3}$
	Mn 56 .....	.....	$1 \times 10^{-3}$
Molybdenum (42) .....	Hg 197m .....	.....	$2 \times 10^{-3}$
	Hg 197 .....	.....	$3 \times 10^{-3}$
	Hg 203 .....	.....	$2 \times 10^{-4}$
Neodymium (60) .....	Mo 99 .....	.....	$2 \times 10^{-3}$
	Nd 147 .....	.....	$6 \times 10^{-4}$
Nickel (28) .....	Nd 149 .....	.....	$3 \times 10^{-3}$
	Ni 65 .....	.....	$1 \times 10^{-3}$
	Nb 95 .....	.....	$1 \times 10^{-3}$
Niobium (Columbium) (41) .....	Nb 97 .....	.....	$9 \times 10^{-3}$
	Os 185 .....	.....	$7 \times 10^{-4}$
	Os 191m .....	.....	$3 \times 10^{-2}$
Osmium (76) .....	Os 191 .....	.....	$2 \times 10^{-3}$
	Os 193 .....	.....	$6 \times 10^{-4}$
	Os 193 .....	.....	$3 \times 10^{-3}$
Palladium (46) .....	Pd 103 .....	.....	$9 \times 10^{-4}$
Phosphorus (15) .....	Pd 109 .....	.....	$2 \times 10^{-4}$
	P 32 .....	.....	$1 \times 10^{-3}$
Platinum (78) .....	Pt 191 .....	.....	$1 \times 10^{-2}$
	Pt 193m .....	.....	$1 \times 10^{-2}$
	Pt 197m .....	.....	$1 \times 10^{-3}$
Potassium (19) .....	Pt 197 .....	.....	$3 \times 10^{-3}$
	K 42 .....	.....	$3 \times 10^{-4}$
Praseodymium (59) .....	Pr 142 .....	.....	.....

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[See footnotes at end of this table]

Element (atomic number)	Isotope	Col. I	Col. II
		Gas concentration $\mu$ Ci/ml <sup>1</sup>	Liquid and solid concentration $\mu$ Ci/ml <sup>2</sup>
Promethium (61) .....	Pr 143 .....	.....	5x10 <sup>-4</sup>
	Prm 147 .....	.....	2x10 <sup>-3</sup>
	Prm 149 .....	.....	4x10 <sup>-4</sup>
Rhenium (75) .....	Re 183 .....	.....	6x10 <sup>-3</sup>
	Re 186 .....	.....	9x10 <sup>-4</sup>
	Re 188 .....	.....	6x10 <sup>-4</sup>
Rhodium (45) .....	Rh 103m .....	.....	1x10 <sup>-1</sup>
	Rh 105 .....	.....	1x10 <sup>-3</sup>
Rubidium (37) .....	Rb 86 .....	.....	7x10 <sup>-4</sup>
Ruthenium (44) .....	Ru 97 .....	.....	4x10 <sup>-4</sup>
	Ru 103 .....	.....	8x10 <sup>-4</sup>
	Ru 105 .....	.....	1x10 <sup>-3</sup>
	Ru 106 .....	.....	1x10 <sup>-4</sup>
Samarium (62) .....	Sm 153 .....	.....	8x10 <sup>-4</sup>
Scandium (21) .....	Sc 46 .....	.....	4x10 <sup>-4</sup>
	Sc 47 .....	.....	9x10 <sup>-4</sup>
	Sc 48 .....	.....	3x10 <sup>-4</sup>
Selenium (34) .....	Se 75 .....	.....	3x10 <sup>-3</sup>
Silicon (14) .....	Si 31 .....	.....	9x10 <sup>-3</sup>
Silver (47) .....	Ag 105 .....	.....	1x10 <sup>-3</sup>
	Ag 110m .....	.....	3x10 <sup>-4</sup>
	Ag 111 .....	.....	4x10 <sup>-4</sup>
Sodium (11) .....	Na 24 .....	.....	2x10 <sup>-3</sup>
Strontium (38) .....	Sr 85 .....	.....	1x10 <sup>-4</sup>
	Sr 89 .....	.....	1x10 <sup>-4</sup>
	Sr 91 .....	.....	7x10 <sup>-4</sup>
	Sr 92 .....	.....	7x10 <sup>-4</sup>
Sulfur (16) .....	S 35 .....	9x10 <sup>-8</sup>	6x10 <sup>-4</sup>
Tantalum (73) .....	Ta 182 .....	.....	4x10 <sup>-4</sup>
Technetium (43) .....	Tc 96m .....	.....	1x10 <sup>-1</sup>
	Tc 96 .....	.....	1x10 <sup>-3</sup>
Tellurium (52) .....	Te 125m .....	.....	2x10 <sup>-3</sup>
	Te 127m .....	.....	6x10 <sup>-4</sup>
	Te 127 .....	.....	3x10 <sup>-3</sup>
	Te 129m .....	.....	6x10 <sup>-4</sup>
	Te 131m .....	.....	7x10 <sup>-4</sup>
	Te 132 .....	.....	3x10 <sup>-4</sup>
Terbium (65) .....	Tb 160 .....	.....	4x10 <sup>-4</sup>
Thallium (81) .....	Tl 200 .....	.....	4x10 <sup>-3</sup>
	Tl 201 .....	.....	3x10 <sup>-3</sup>
	Tl 202 .....	.....	1x10 <sup>-3</sup>
	Tl 204 .....	.....	1x10 <sup>-3</sup>
Thulium (69) .....	Tm 170 .....	.....	5x10 <sup>-4</sup>
	Tm 171 .....	.....	5x10 <sup>-3</sup>
Tin (50) .....	Sn 113 .....	.....	9x10 <sup>-4</sup>
	Sn 125 .....	.....	2x10 <sup>-4</sup>
Tungsten (Wolfram) (74) .....	W 181 .....	.....	4x10 <sup>-3</sup>
	W 187 .....	.....	7x10 <sup>-4</sup>
Vanadium (23) .....	V 48 .....	.....	3x10 <sup>-4</sup>
Xenon (54) .....	Xe 131m .....	4x10 <sup>-6</sup>	.....
	Xe 133 .....	3x10 <sup>-6</sup>	.....
	Xe 135 .....	1x10 <sup>-6</sup>	.....
Ytterbium (70) .....	Yb 175 .....	.....	1x10 <sup>-3</sup>
Yttrium (39) .....	Y 90 .....	.....	2x10 <sup>-4</sup>
	Y 91m .....	.....	3x10 <sup>-2</sup>
	Y 91 .....	.....	3x10 <sup>-4</sup>
	Y 92 .....	.....	6x10 <sup>-4</sup>
	Y 93 .....	.....	3x10 <sup>-4</sup>
Zinc (30) .....	Zn 65 .....	.....	1x10 <sup>-3</sup>
	Zn 69m .....	.....	7x10 <sup>-4</sup>
	Zn 69 .....	.....	2x10 <sup>-2</sup>
Zirconium (40) .....	Zr 95 .....	.....	6x10 <sup>-4</sup>
	Zr 97 .....	.....	2x10 <sup>-4</sup>
Beta and/or gamma emitting byproduct material not listed above with half-life less than 3 years.	.....	1x10 <sup>-10</sup>	1x10 <sup>-6</sup>

Footnotes to Schedule A:

<sup>1</sup>Values are given only for those materials normally used as gases.

<sup>2</sup> $\mu$  Ci/gm for solids.

## § 30.71

## 10 CFR Ch. I (1-1-98 Edition)

NOTE 1: Many radioisotopes disintegrate into isotopes which are also radioactive. In expressing the concentrations in Schedule A, the activity stated is that of the parent isotope and takes into account the daughters.

NOTE 2: For purposes of § 30.14 where there is involved a combination of isotopes, the limit for the combination should be derived as follows:

Determine for each isotope in the product the ratio between the concentration present in the product and the exempt concentration established in Schedule A for the specific isotope when not in combination. The sum of such ratios may not exceed "1" (i.e., unity).

*Example:*

$$\frac{\text{Concentration of Isotope A in Product}}{\text{Exempt concentration of Isotope A}} + \frac{\text{Concentration of Isotope B in Product}}{\text{Exempt concentration of Isotope B}} \leq 1$$

[30 FR 8185, June 26, 1965, as amended at 35 FR 3982, Mar. 3, 1970; 38 FR 29314, Oct. 24, 1973; 59 FR 5520, Feb. 7, 1994]

### § 30.71 Schedule B.

Byproduct material	Microcuries	Byproduct material	Microcuries
Antimony 122 (Sb 122) .....	100	Indium 113m (In 113m) .....	100
Antimony 124 (Sb 124) .....	10	Indium 114m (In 114m) .....	10
Antimony 125 (Sb 125) .....	10	Indium 115m (In 115m) .....	100
Arsenic 73 (As 73) .....	100	Indium 115 (In 115) .....	10
Arsenic 74 (As 74) .....	10	Iodine 125 (I 125) .....	1
Arsenic 76 (As 76) .....	10	Iodine 126 (I 126) .....	1
Arsenic 77 (As 77) .....	100	Iodine 129 (I 129) .....	0.1
Barium 131 (Ba 131) .....	10	Iodine 131 (I 131) .....	1
Barium 133 (Ba 133) .....	10	Iodine 132 (I 132) .....	10
Barium 140 (Ba 140) .....	10	Iodine 133 (I 133) .....	1
Bismuth 210 (Bi 210) .....	1	Iodine 134 (I 134) .....	10
Bromine 82 (Br 82) .....	10	Iodine 135 (I 135) .....	10
Cadmium 109 (Cd 109) .....	10	Iridium 192 (Ir 192) .....	10
Cadmium 115m (Cd 115m) .....	10	Iridium 194 (Ir 194) .....	100
Cadmium 115 (Cd 115) .....	100	Iron 55 (Fe 55) .....	100
Calcium 45 (Ca 45) .....	100	Iron 59 (Fe 59) .....	10
Calcium 47 (Ca 47) .....	10	Krypton 85 (Kr 85) .....	100
Carbon 14 (C 14) .....	100	Krypton 87 (Kr 87) .....	10
Cerium 141 (Ce 141) .....	100	Lanthanum 140 (La 140) .....	10
Cerium 143 (Ce 143) .....	100	Lutetium 177 (Lu 177) .....	100
Cerium 144 (Ce 144) .....	1	Manganese 52 (Mn 52) .....	10
Cesium 131 (Cs 131) .....	1,000	Manganese 54 (Mn 54) .....	10
Cesium 134m (Cs 134m) .....	100	Manganese 56 (Mn 56) .....	10
Cesium 134 (Cs 134) .....	100	Mercury 197m (Hg 197m) .....	100
Cesium 135 (Cs 135) .....	100	Mercury 197 (Hg 197) .....	100
Cesium 136 (Cs 136) .....	10	Mercury 203 (Hg 203) .....	10
Cesium 137 (Cs 137) .....	10	Molybdenum 99 (Mo 99) .....	100
Chlorine 36 (Cl 36) .....	10	Neodymium 147 (Nd 147) .....	100
Chlorine 38 (Cl 38) .....	10	Neodymium 149 (Nd 149) .....	100
Chromium 51 (Cr 51) .....	1,000	Nickel 59 (Ni 59) .....	100
Cobalt 58m (Co 58m) .....	10	Nickel 63 (Ni 63) .....	10
Cobalt 58 (Co 58) .....	10	Nickel 65 (Ni 65) .....	100
Cobalt 60 (Co 60) .....	1	Niobium 93m (Nb 93m) .....	10
Copper 64 (Cu 64) .....	100	Niobium 95 (Nb 95) .....	10
Dysprosium 165 (Dy 165) .....	100	Niobium 97 (Nb 97) .....	10
Dysprosium 166 (Dy 166) .....	100	Osmium 185 (Os 185) .....	10
Erbium 169 (Er 169) .....	100	Osmium 191m (Os 191m) .....	100
Erbium 171 (Er 171) .....	100	Osmium 191 (Os 191) .....	100
Europium 152 9.2 h (Eu 152 9.2 h) .....	100	Osmium 193 (Os 193) .....	100
Europium 152 13 yr (Eu 152 13 yr) .....	100	Palladium 103 (Pd 103) .....	100
Europium 154 (Eu 154) .....	1	Palladium 109 (Pd 109) .....	100
Europium 155 (Eu 155) .....	1	Phosphorus 32 (P 32) .....	10
Fluorine 18 (F 18) .....	10	Platinum 191 (Pt 191) .....	100
Gadolinium 153 (Gd 153) .....	10	Platinum 193m (Pt 193m) .....	100
Gadolinium 159 (Gd 159) .....	100	Platinum 193 (Pt 193) .....	100
Gallium 72 (Ga 72) .....	100	Platinum 197m (Pt 197m) .....	100
Germanium 71 (Ge 71) .....	10	Platinum 197 (Pt 197) .....	100
Gold 198 (Au 198) .....	10	Polonium 210 (Po 210) .....	0.1
Gold 199 (Au 199) .....	100	Potassium 42 (K 42) .....	10
Hafnium 181 (Hf 181) .....	100	Praseodymium 142 (Pr 142) .....	100
Holmium 166 (Ho 166) .....	100	Praseodymium 143 (Pr 143) .....	100
Hydrogen 3 (H 3) .....	1,000	Promethium 147 (Pm 147) .....	10
		Promethium 149 (Pm 149) .....	10
		Rhenium 186 (Re 186) .....	100